

### **REMARKS/ARGUMENTS**

The "final" Office Action of October 31, 2005 has been reviewed and carefully considered.

Claims 1 to 19, of which claims 1 and 10 are independent claims, remain pending.

Applicant respectfully requests reconsideration of the patentability of claims 1 to 19 in view of the following remarks.

At the outset, appreciation is expressed for the courtesies extended by the Examiner in the telephone interview with applicant's undersigned representative on November 15, 2005. In the course of that interview, applicant's invention, the pending claims, and the prior art of record were discussed. Although agreement as to the patentability of the claims was not reached during the interview, the Examiner invited applicant to submit additional comments on the matters discussed, and such further comments are set forth below. Reconsideration, in view of the following, is accordingly solicited.

#### **Introduction**

In its earlier submission filed August 4, 2005 in response to the first Office Action of July 5, 2005, applicant described pertinent features of the present invention and presented an analysis of the cited prior art and a discussion of essential differences between the present invention, as recited in the claims, and that cited art. To avoid unnecessary repetition, the contents of the "Remarks" set forth in applicant's Response of August 4, 2005 are hereby expressly incorporated by reference herein.

The Examiner has responded, in paragraph "2" of the "final" Office Action, to applicant's previously tendered arguments, and has maintained his rejection of all of the claims under Section 103(a) based on the same prior art - namely, the published U.S. patent application of Feyereisen et al. - on which the Examiner relied in the first Office Action. Applicant respectfully submits, however, that neither the Feyereisen publication, nor any other art referenced by the Examiner or otherwise known to applicant, in fact discloses or renders obvious applicant's invention as recited in claims 1 to 19 of the present application.

Reconsideration of the "final" rejection of claims 1 to 19, in view of the following further remarks, is solicited.

The "Control Button 42" of Feyereisen is Not the "Control" of Applicant's Claims

In responding to the arguments that applicant proffered in the Response of August 4, 2005 (see paragraph "2" of the "final" Office Action), the Examiner states:

Claim 1 recites "manually manipulating, by the user, a control for one of adjusting the data setting and selecting the data setting to be adjusted". From the language of claim 1, "a control" is not necessarily an indicator or instrument as implied by the applicant. The "control" is disclosed by Feyereisen as control button 46 for selecting an operation "mode" wherein a vertical Speed indicator is displayed responsively for the pilot to manually adjust climb rate parameter (0013, 0014).

Applicant respectfully disagrees.

With respect to the recited "control", it is first noted that each of applicant's claims is directed to a method or apparatus for facilitating user entry of a manually-adjustable data setting that is normally imaged in a predetermined size on an imaging display in an aircraft cockpit. Each of applicant's independent claims - claims 1 and 10 - expressly defines the "control" as one that is manually manipulatable by the user to perform a specific task relating to the adjustment of that manually adjustable data setting. Thus, claim 1 recites "a control for one of adjusting the data setting and selecting the data setting to be adjusted", and claim 10 recites "a user-manipulatable control for user adjustment of the manually-adjustable data setting". The claimed "control" is thus defined in each of the claims as one that performs a specific, recited function, a function that is further tied to the remainder of the method steps (claims 1 to 9) and the apparatus limitations (claims 10 to 19) of the respective claim. As recited in applicant's claims, user manipulation of the control causes enlargement of the displayed image of the data setting to which the control relates; when the user wishes to adjust the data setting, manipulation of the control by which the data setting is adjusted causes the displayed image of the data setting to be enlarged to facilitate user adjustment of the data setting.

In view of this expressly recited claim limitation identifying the operative functionality of applicant's "control", the Examiner's suggestion that the "control button 46" of Feyereisen reads on the "control" recited in each of claims 1 and 10 cannot be correct.

First, the "control button 46" shown in Feyereisen Fig. 2 is *not* operable "for one of adjusting the data setting and selecting the data setting to be adjusted" (claim 1) or "for user adjustment of the manually-adjustable data setting" (claim 10). Rather, the "control button 46" of Feyereisen Fig. 2 is operable by the user "to select one of a limited number

of operational modes" of a prior art TCAS system, the display of which is what is depicted in Feyereisen Fig. 2. As Feyereisen explains at page 2, paragraph 0013 as "Background of the Invention",

[0013] Display 20 includes several areas represented by rectangular boxes 36, 38, 40, 42, 44 which are areas reserved for word text displays wherein conditions of the TCAS are reported to the pilot of a host aircraft. For example, if a portion or component of the TCAS fails, a concise textual report describing the failure appears in one of rectangular boxes 36, 38, 40, 42, 44. *In another example, if the operator operates mode control 46 to select one of a limited number of operational modes, a concise textual message indicating the choice of operational mode appears in another of rectangular boxes 36, 38, 40, 42, 44. Selectable operational modes typically include a "standby" mode in which both of the host aircraft transponder systems are inactive, a "transponder on" mode in which a selected one of primary transponder and secondary transponder is active, a "traffic alert" mode in which an alert is transmitted to the protected host aircraft pilot if any Mode-C or Mode-S transponder equipped aircraft are entering a first predetermined cautionary envelope of airspace, and "traffic alert/resolution advisory" mode in which a traffic alert (TA) and/or resolution advisory (RA) is issued if any Mode-C or Mode-S transponder equipped aircraft are entering a second predetermined warning envelope of airspace. The various*

*operational modes described above are selectable by operating mode control 46.* (Emphasis supplied)

Thus, the "control button 46" of Feyereisen Fig. 2 is operable for selecting one of the "various operational modes" of the TCAS system which are described in paragraph 0013 of Feyereisen. "Control button 46" is *not* operable, as expressly recited in each of applicant's independent claims, "for one of adjusting the data setting and selecting the data setting to be adjusted" (claim 1), or "for user adjustment of the manually-adjustable data setting" (claim 10). Operation of the "control button 46" simply selects the way in which the user wishes the TCAS system to detect and report, or to not detect (in "standby" mode), potential traffic conflicts with other aircraft.

Second, the TCAS system "operational modes" that are selectable by operating the "control button 46" of Feyereisen are *not* the same as - and, indeed, have no relation whatsoever to - the "current mode of flight" or "current phase of flight" on the basis of which Feyereisen initiates the dynamic emphasis of predetermined portions of the so-called "enhanced T" configuration of the graphically depicted flight instruments viewable on the display of Feyereisen Fig. 3. Operation of the "control button 46" of the Fig. 2 TCAS system display has absolutely *no* effect on the dynamic emphasis of predetermined portions of the Fig. 3 display as elsewhere described by Feyereisen.; "control button 46" *only* effects operation of the TCAS itself.

One of the described features of the Feyereisen display interface is the ability to reduce pilot workload by dynamically emphasizing, as a predetermined function of the current mode or phase of flight, different portions of the information displayed on the flat panel screen - what Feyereisen refers to as the "enhanced T". The prior art TCAS display

depicted in Fig. 2, and the accompanying description at paragraphs 0010 to 0014 of Feyereisen, is presented by Feyereisen as "Background of the Invention" to explain the great demands placed on a pilot to operate and view and appropriately understand and appreciate the information presented on such a prior art TCAS display while, at the same time, operating the aircraft in IFR (Instrument Flight Rules) conditions in which uninterrupted attention to the primary flight instruments must be paid. (See Feyereisen 0017) By dynamically emphasizing different predetermined portions of the Feyereisen Fig. 3 display and presenting additional information (such as TCAS warnings) at appropriate locations on that display, Feyereisen seeks to reduce pilot workload in IFR conditions to levels approaching the far-less demanding workload of VFR (Visual Flight Rules) aircraft operation. (See Feyereisen 0019)

Thus, the prior art TCAS display of Feyereisen Fig. 2 is *not* part of the Feyereisen system in which selected portions of the display screen are dynamically emphasized in accordance with the current mode or phase of flight of the aircraft. User operation of the "control button 46" of the prior art TCAS display of Feyereisen Fig. 2 to select among the "various operational modes" of that TCAS system has *no* effect on when or whether particular portions of the Feyereisen display are dynamically emphasized. Put another way, the "operational modes" of the Feyereisen Fig. 2 TCAS which are described in paragraph 0013 of Feyereisen have *no relation whatsoever* to the "current mode or phase of flight" of the aircraft, on the basis of which selected portions of the information displayed on the Feyereisen Fig. 3 display screen are dynamically emphasized. Neither single nor repeated user operation of the "control button 46" has *any* effect on the current mode or

phase of flight of the aircraft, or on the dynamic emphasis of predetermined portions of the Feyereisen display that this prior art publication describes.

The "control button 46" of Feyereisen Fig. 2, therefore, *cannot* properly be construed as applicant's claimed "control for one of adjusting the data setting and selecting the data setting to be adjusted" (claim 1), or "control for user adjustment of the manually-adjustable data setting" (claim 10), as therein recited and in the context of the remainder of those respective claims.

Feyereisen Does Not Teach Either Image Emphasis in Response to User Action or Image Deemphasis in Response to Cessation of User Action

In his response to the arguments submitted in applicant's Response of August 4, 2005, the Examiner further states in paragraph "2" of the "final" Office Action:

In response to the arguments that Feyereisen does not teach reducing the enlarged image when the sensed manipulating of the control is determined to have ceased, Feyereisen teaches that the image is contextually emphasized according to sensed mode, i.e., if the mode is changed either by the user selection of another mode or by the aircraft entering into another phase of the flight, the image return[s] to normal display.

Applicant's independent claim 1 recites that the image on the display, of the data setting to be adjusted, is enlarged from its original size in response to sensed user manipulation of a control for one of adjusting the manually-adjustable data setting and selecting the data setting to be adjusted, and that the image of the data setting is reduced

to its original size in response to a determination that the sensed manipulating of the control has ceased.

Applicant's independent claim 10 similarly recites that the image on the display, of the data setting to be adjusted, is enlarged from its original size in response to user manipulation of a control for user-adjustment of the manually-adjustable data setting, and that the image of the data setting is reduced to its original size when user manipulating of the control has ceased.

Feyereisen fails to directly or indirectly teach, or to even inferentially suggest, either enlargement (or any other "emphasis") of an imaged data setting in response to user manipulation of a control related to that data setting or its adjustment, or reduction in size (or any other de-emphasis) of an imaged data setting in response to cessation of user manipulation of such a control.

Feyereisen quite clearly describes only a *single* "trigger" or initiator of change in the dynamic emphasis of a predetermined portion of its display. It will be recalled that in Feyereisen's disclosed system:

[0062] According to the enhanced "T" portion of the invention, the dynamic presentation of the instrument displays is context sensitive, whereby different ones of the information displays are dynamically emphasized *as a predetermined function of the current mode or phase of flight*. The emphasis is provided to draw the pilot's attention to the information particularly relevant to the current phase of flight, e.g., taxi, take off, cruising, approach, landing and ground phases of flight, or the current mode of flight, e.g., vertical speed



(VS), indicated air speed (IAS), flight path angle (FPA), vertical navigation (VNAV), altitude hold (ALT), [and] flight level change (FLCH) modes of flight, as well as the numerous other control parameters involving air craft attitude, speed, and thrust settings. Accordingly, *a predetermined one or more of the different information displays is dynamically emphasized as a function of mode or phase of flight, with different ones of the information displays being emphasized during different modes or phases of flight.* (Emphasis supplied)

The dynamic emphasis of a predetermined portion of the Feyereisen display is thus initiated in response to a change in the "mode or phase of flight" of the aircraft - *not* in response to user-manipulation of a manually-operable control specifically related to a data setting whose image is to be emphasized on the display.

Feyereisen also explains, in paragraph 0137, the manner in which the Feyereisen system determines or identifies the current mode or phase of flight - i.e. the "trigger" or initiator of Feyereisen's dynamic emphasis of a predetermined portion of its information display screen:

[0137]       The machine instructions drive the processor 306 to *operate an algorithm for determining a current mode or phase of flight as a function of the several instrument information signals available on the data bus 302 that are indicative of different flight parameters.* The machine instructions further drive the processor 306 to operate an algorithm for dynamically emphasizing one or more of the different

information displays as a function of the current mode or phase of flight by metamorphosis or transformation in appearance using any of animated size, font, shading and texture, as discussed herein.

(Emphasis supplied)

Thus, Feyereisen teaches that - in contrast with applicant's claimed invention in which sensed manual user manipulation of a "control for one of adjusting the data setting and selecting the data setting to be adjusted" (claim 1), or a "control for user adjustment of the manually-adjustable data setting" (claim 10), initiates enlargement of the image of the data setting on the display - dynamic emphasis of a predetermined portion of the Feyereisen display is initiated by an *automated determination* of the *current mode or phase of flight* based on an *algorithm* that monitors various information signal inputs to the Feyereisen display. *Nothing* in Feyereisen describes or suggests any other way of initiating the dynamic emphasis of a predetermined portion of its display, and most assuredly *nothing* in Feyereisen describes or suggests that the dynamic emphasis of a predetermined portion of its display is or might or could or should be initiated by the user's manual operation of a control related to the portion of the display to be emphasized, as is expressly recited in each of independent claims 1 and 10 of the present application.

Neither - just as importantly - does Feyereisen teach or suggest the return of the dynamically emphasized portion of its display to a de-emphasized condition *in response to a determination that user manipulation of applicant's claimed manually-manipulatable control has ceased*. Indeed, de-emphasis of a dynamically emphasized portion of the Feyereisen display takes place *only* when it is determined - again by applying an automated algorithm to an analysis of the input signals to the Feyereisen display - that the

current mode or phase of flight of the aircraft *has changed to a new mode or phase of flight*. (See paragraph 00137 of Feyereisen). De-emphasis of the currently emphasized portion of the Feyereisen display accordingly takes place only when the Feyereisen system determines that a *different* portion of the display should be emphasized because the aircraft has begun a *different* mode or phase of flight - *not* because a user has ceased manipulation of a user-adjustable control related to the particular imaged data setting that is currently emphasized.

Thus, Feyereisen does *not* teach or suggest, as is expressly recited in applicant's claims, that an image of a displayed data setting is enlarged in response to manual manipulation of a control for adjusting or selecting the data setting to be adjusted (claims 1 to 9), or in response to manual manipulation of a control for user-adjustment of the data setting (claims 10 to 19), and that the image of the displayed data setting is returned from its enlarged to its original, reduced size when user manipulation of the control has ceased.

In the course of the telephone interview on November 15, 2005, the Examiner suggested that even if Feyereisen does not expressly teach this functionality, it would be obvious to provide it. In this regard, the Section 103(a) rejection in the "final" Office Action of October 31, 2005 states at page 3:

It appears that the sensing an event related to flight operation inherently includes sensing user's manipulation of one of the instruments, e.g., setting altitude or speed (0062).<sup>1</sup> Even if it is not,

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<sup>1</sup> Applicant points out that this paragraph (0062) of Feyereisen neither states nor suggests that the Feyereisen display operates in response to "sensing user's manipulation of one of the instruments, e.g., setting altitude or speed". The Feyereisen display merely *monitors* the aircraft's current altitude and

enlarging a display image responsive to sensing user manipulations is well known in the art of image display (see US 6,909,439, abstract). It would have been obvious to one of skill in the art, at the time the invention was made, to combine the well known implementation of enlarging an image responsive to sensed user manipulation of the image to Feyereisen's teaching of contextual enlargement of the flight instruments. Motivation of the combine is for the ease and accuracy of user input parameters.

With all due respect, the Examiner is simply applying impermissible hindsight reconstruction in an attempt to demonstrate a prior art teaching that does not exist.

*Nothing* in Feyereisen, or in any other prior art known to applicant, teaches or suggests the functionality of applicant's claimed invention - namely, enlargement of a user-adjustable imaged data setting in response to user manipulation of a control operable to adjust the data setting, and return of the enlarged imaged data to its original image size in response to cessation of user manipulation of the control. In US 6,909,439 ("Amro") - which is discussed at length in applicant's earlier Response of August 4, 2005 as incorporated by reference herein - an enlarged window for receiving data entry in a PDA is opened in response to the user "tapping" with a stylus on a specified portion of the screen that is labeled to trigger enlargement of the window. The enlarged window is thereafter removed from the screen in response to the user again "tapping" the stylus on a specified screen area which is labeled to trigger removal of the enlarged window. Amro does *not* teach an imaged data setting that is enlarged in response to user manipulation of a

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speed - aircraft flight parameters that are *not* adjusted by "user's manipulation of one of the instruments" - to identify the current mode or phase of flight.

control; it merely teaches that an enlarged window is opened to receive data entry. Amro also does *not* teach that the enlarged window is closed in response to cessation of user manipulation; instead, closing of the window requires a second, additional, specific user action to *instruct* the device to close the window - namely, "tapping" of the stylus on an indicated screen area.

Thus, the combination of Feyereisen & Amro fails to remedy the failure of Feyereisen to itself teach or suggest a method or system in which a data setting on a display is enlarged, in response to sensed manipulating by the user of a control operable for adjusting the data setting or for selecting the data setting to be adjusted, from a predetermined size to a predetermined enlarged size to unambiguously direct the user's attention to the predeterminedly enlarged data setting to be adjusted, and reducing the enlarged image of the data setting on the display from the predeterminedly enlarged size to the predetermined size when user manipulating of the control is determined to have ceased.

Moreover, applicant contends that there is no, or at the very least grossly insufficient, motivation for making the combination of Feyereisen & Amro, and that such combination is therefore improper.

First, the Examiner identifies the motivation for the combination as providing "ease and accuracy of user input parameters." Applicant points out that while this may well be an intended object of the Amro invention, Feyereisen is *not* directed to providing "ease and accuracy of user input parameters" but, rather, to reducing pilot workload in *monitoring* the aircraft flight instruments and systems. It is *applicant's* invention that provides for enhanced ease and accuracy of user input parameters, by sensing and responding to user

manipulation (and the cessation of manipulation) of a control related to adjustment of a user-adjustable data setting. Only through impermissible hindsight reconstruction - i.e. by relying on a common objective in applicant's and the secondary reference's teaching - can any purported basis for the Examiner's proffered combination of Feyereisen and Amro be suggested.

Moreover, modification of the Feyereisen disclosure to provide those limitations of applicant's claimed invention that are missing in that reference requires the addition to Feyereisen of the functionality of applicant's invention - functionality which is wholly absent in Feyereisen. Put another way, the present invention provides functionality neither taught nor suggested by Feyereisen - namely, enlargement of an imaged data setting, in response to sensed manipulating by the user of a control operable for adjusting that data setting or for selecting that data setting to be adjusted, from a predetermined size to a predetermined enlarged size to unambiguously direct the user's attention to the predeterminedly enlarged data setting to be adjusted, and reducing the enlarged image of the data setting on the display from the predeterminedly enlarged size to the predetermined size when user manipulating of the control is determined to have ceased. That functionality is *not* present in or suggested by Feyereisen, and the person of skill would *not* have considered or been motivated, at the time of applicant's invention, to add that "missing" functionality to the Feyereisen disclosure in the absence of knowledge of applicant's inventive disclosure. There is nothing in Feyereisen, or in Amro, to motivate wholesale modification of the Feyereisen system to provide the additional functionality provided by applicant's claimed invention - functionality neither taught nor suggested in either of those cited references.

Thus, the proffered combination of Feyereisen and Amro, in addition to not meeting the express recitations of applicant's claims, is an improper basis for an obviousness rejection of applicant's claims.

#### Feyereisen Fig. 3 Does *Not* Depict a Translucent Enlarged Window

Finally, in paragraph "2" of the "final" Office Action the Examiner further states:

In response to the argument that Feyereisen does not teach the translucently overlaying of the selected indicator, the limitation is disclosed in Figure 3 wherein Altitude and Airspeed indicators are displayed translucently over background images.

Applicant respectfully disagrees.

A close examination of the enlarged airspeed pointer 122 and the enlarged altitude pointer 130 in Feyereisen Fig. 3 reveals that neither is in fact depicted as being at all translucent. Were each of those areas translucent, all of the "background" details would be at least partially viewable in the enlarged areas. For example, if the enlarged airspeed pointer 122 were translucent, one should be able to see within the enlargement the lower portion of the airspeed trend indicator 124 that the enlarged point partially overlies, the remainder of the airspeed indicator digits "120" that the enlarged pointer 122 partially overlies, and the overlaid portion of the ruler-type scale - defined by a series of alternating long and short horizontal lines - of the airspeed indicator 120 that appears directly to the right of the numbers "100" , "110", "120", "130", and "140" in Feyereisen Fig. 3. Instead, the only "background" features that can be seen in the enlarged pointers 122 and 130 are the extensions of the horizon line 107 and of the two parallel horizontal lines immediately

therebelow. The only logical conclusion that can be drawn is that those line extensions, rather than being viewable "through" translucent enlarged pointers 122, 130, have instead simply been recreated or redrawn as a part of the overlaid enlarged pointers for clarity and to reduce pilot workload.

Thus, Feyereisen does *not* teach or suggest the recited subject matter of claims 7 and 16 of the present application, in each of which the enlarged image of the data setting is stated to have "a degree of translucence selected to permit concurrent viewing by the user of another image presented at a location on the display that is at least partly overlaid by the enlarged image of the data setting."

### Conclusion

In sum, Feyereisen fails to disclose or suggest or render obvious - alone or in combination with any other prior art - a method or system in which a data setting on a display is enlarged, in response to sensed manipulating by the user of a control operable for adjusting the data setting or for selecting the data setting to be adjusted, from a predetermined size to a predetermined enlarged size to unambiguously direct the user's attention to the predeterminedly enlarged data setting to be adjusted, and reducing the enlarged image of the data setting on the display from the predeterminedly enlarged size to the predetermined size when user manipulation of the control is determined to have ceased. Claims 1 to 19 of the present application are therefore respectfully deemed to be patentably distinct over the prior art.



Reconsideration of the "final" rejection set forth in the Office Action of October 31, 2005, allowance of claims 1 to 19, and early passage of the case to issue are once more solicited.

It is believed that no fees or charges are required at this time in connection with the present application; nevertheless, any fees or charges required at this time may be charged to our Patent and Trademark Office Deposit Account No. 03-2412.

Respectfully submitted,

COHEN, PONTANI, LIEBERMAN & PAVANE

By

A handwritten signature in black ink, appearing to read 'Lance J. Lieberman', is written over a horizontal line.

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